

WHAT IS CLAIMED IS:

1. A music display system for use by a plurality of users in providing a plurality of display presentations of a selected musical composition, said system comprising:

a plurality of individual workstations, each workstation comprising
a communication interface providing for communications with the
respective workstation of music data representative of the selected musical
composition;

memory for locally storing the data responsive to the
communications interface; and

a display apparatus for providing a local visual display
presentation representative of the selected musical composition responsive to the
stored data;

wherein the system is further comprised of:

means for synchronizing the presentation on the plurality of local
visual display presentations of the selected musical composition.

2. The system as in claim 1, further comprising:

an input device responsive to a performance by the user of the displayed

~~musical~~ composition for providing an output of user performance data.

3. The system as in claim 2, wherein the system provides for a display
presentation of the differences between the displayed composition data and the user
performance data for at least one of the individual workstations.

4. The system as in claim 1, wherein the means for synchronizing is
B responsive to at least one of ~~an embedded timing signal within the music data~~, timing data,
and an external timing signal.

5. The system as in claim 2, further comprising:
combining means for synchronizing and combining the user performance
data from a plurality of the individual workstations to generate composite virtual
performance data, responsive to the user performance data output from each of the
plurality of individual workstations.

10 B 6. The system as in claim ⁷⁰~~1~~, further comprising:
an editing subsystem for changing features of at least one of pitch, key,
tempo, instrument type, notation, and composition of the music data to create modified
music data;
15 wherein the modified music data is communicated to at least one of the
individual workstations which provides a local video presentation responsive to the
modified music data.

B 7. The system as in claim ⁷³~~6~~, wherein the modified ~~music~~ data is distributed to
20 a plurality of the individual workstations, which in a synchronized manner each provide a
B local video presentation responsive to the modified ~~music~~ data.

B 8. The system as in claim ⁷³~~6~~, wherein the editing subsystem is a part of at
least one of the individual workstations.

25 B 9. The system as in claim ⁷³~~6~~, wherein the changing is restricted to permit
changing of only some of the features.

10. The system as in claim 9, wherein the changing of features is restricted at a defined level of permission.

11. The system as in claim 9, wherein there are a plurality of the editing
5 subsystems; and
wherein for each of the editing subsystems the changing of features is programmably restricted at a defined level of permission.

12. The system as in claim 7, wherein the plurality of individual workstations
10 are each associated into defined subsets of individual workstations;
wherein each of the editing subsystems is associated with at least one of
B the defined subsets and communicates the respective modified ~~music~~ data to the
respective associated defined subset of individual workstations each of which provides a
B respective local display presentation responsive to the respective modified ~~music~~ data.

13. The system as in claim 12, wherein at least one of the editing subsystems
15 B is a master that communicates its respective modified ~~music~~ data to all of the plurality of individual workstations.

20 B 14. The system as in claim 13, wherein the modified ~~music~~ data from the master is given priority for display on the individual workstations over all the modified music data from all other ones of the editing subsystems.

15. The system as in claim 1, wherein the communication between the
25 individual workstations is bidirectional.

16. The system as in claim ⁷³~~6~~, wherein the changing is responsive to a user input.

17. The system as in claim 16, wherein the user input is at least one of an audio stimulus, digital data, a switch, a touch input device, motion sensor, motion capture data, and speech recognition.

18. The system as in claim ⁷³~~6~~, wherein there are a plurality of the editing subsystems;

wherein the plurality of individual workstations are each associated into defined subsets of individual workstations; and

wherein each of the editing subsystems is associated with selected ones of the defined subsets, wherein each of the editing subsystems communicates its respective modified ~~music~~ data to the respective associated selected ones of the defined subsets of individual workstations each of which provides a respective local display presentation responsive to the respective modified ~~music~~ data.

19. The system as in claim 18, wherein at least one of the editing subsystems is a master that communicates its respective modified ~~music~~ data to all of the plurality of individual workstations.

20. The system as in claim 19, wherein the modified ~~music~~ data from the master is given priority for display by all of the individual workstation relative to any and all other modified ~~music~~ data from all other ones of the editing subsystems.

21. The system as in claim 18, wherein at least one of the editing subsystems
B is a subgroup master that communicates the respective modified ~~music~~ data to the
respective associated selected ones of the defined subsets of the individual workstations.

5 22. The system as in claim 21, wherein there are a plurality of subgroup
masters.

23. The system as in claim 21, wherein at least one of the editing subsystems
B is a master that communicates its respective modified ~~music~~ data to all of the plurality of
10 individual workstations.

24. The system as in claim 23, wherein the modified ~~music~~ data from the
B master is given priority for display by the individual workstations over all the modified
B ~~music~~ data from all other ones of the editing subsystems.

15 25. The system as in claim 23,
wherein the master is for use by at least one of a conductor, band leader,
teacher, librarian, and composer; and
wherein each of the plurality of subgroup masters is for use by at least one
20 of a section leader, a band leader, a teacher, and a librarian.

26. The system as in claim 1, wherein the ~~music~~ data is further comprised of
B ~~instrument~~ type data;
B
wherein at least one of the individual workstations is programmed to
25 B selectively receive the communicated ~~music~~ data responsive to the ~~instrument~~ type data.

27. The system as in claim 26, wherein there are a plurality of the individual
workstations, each programmed to selectively receive the communicated ~~music~~ data
responsive to the ~~instrument~~ type data.

28. The system as in claim 26, wherein the music workstation is programmed
to respond to a specific instrument type responsive to at least one of preprogramming, a
switch, an audio input, a direct line input, MIDI data, user programming, and remote
program control.

29. The system as in claim 1, wherein the music data is further comprised of
instrument type data;

wherein the music data is broadcast to a plurality of the individual
workstations, each of which provides a local video display presentation responsive to
processing of the music data to locally convert the music data to customize the video
display presentation in accordance with the respective instrument type data.

30. The system as in claim 29, wherein the music workstation is programmed
to respond to a specific instrument type responsive to at least one of preprogramming, a
switch, an audio input, a direct line input, MIDI data, user programming, and remote
program control.

31. The system as in claim 27, wherein each of the individual workstations has
an associated ~~instrument~~ type;

wherein each of the individual workstations is further comprised of a
receiver that provides communication that is addressably selective to each of the
individual workstations responsive to the ~~instrument~~ type data and the associated
~~instrument~~ type.

32. The system as in claim 31, wherein the communication is selectively addressable to subgroups within the plurality of individual workstations providing frequency band-based communications which is mapped between each of the respective bands and each of the subgroups.

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33. The system as in claim 1, further comprising:
a conductor workstation providing controlled addressable communications of the music data to at least one of individual ones of the plurality of individual workstations.

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34. The system as in claim 33, wherein the communicating is selectably addressable to defined subgroups within the plurality of individual workstations providing band-based communications;
wherein communications is mapped between each of the respective bands and each of the subgroups.

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35. The system as in claim 1, wherein at least one of the individual workstations is operable in a user selected automated mode comprising at least one of auto-advance mode, training mode, performance mode, auto-repeat mode, conductor mode, marching band mode, auto-compose mode, self-learn mode, and user activated display page turning mode.

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36. The system as in claim 1, wherein one of the individual workstations is a master workstation in communication with the remaining ones of the individual workstations.

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37. A method of processing and displaying music comprising:
retrieving stored music data responsive to user selection from a listing of
available music compositions;
processing the stored music data to format the music data for presentation;
displaying a video presentation of the music responsive to the processing.

38. The method as in claim 37, wherein the displaying is further comprised of:
displaying, on a plurality of separate display apparatus, the video
presentation of the music, responsive to the processing.

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39. The ~~method~~^{system} as in claim 38, further comprising:
~~distributing the processing and displaying among the plurality of display~~^{means for}
apparatus.

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40. The method as in claim 37, further comprising:
changing the music data as to at least one of key, notation, display format,
instrument type, and mode, to provide modified music data;
wherein the processing provides processing of the modified music data.

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41. A communications system comprising:
a plurality of individual music workstations, each comprising a music
input for selectively providing respective individual performance data output, responsive
to a performance by a user of that respective individual music subsystem;
combining means, responsive to the individual performance data output
from each of the plurality of individual music workstations, to provide a combined output
of composite virtual performance data;

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wherein the combining means is further comprised of means for synchronizing and combining the individual performance data from the plurality of individual music subsystems to generate the composite virtual performance data; and means for communicating said composite virtual performance data to at least one of the plurality of individual music subsystems, which provides a local presentation representative of the combined musical performances for all of the communicating plurality of individual music subsystems responsive to the composite virtual performance data.

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10 42. The system as in claim 41,
wherein each of the individual music workstations is further comprised of a music display apparatus for providing a local visual display presentation of a selected musical composition;
15 wherein the plurality of individual music workstations provide for synchronized display presentation of the musical composition.

20 43. The system as in claim 42, wherein a plurality of the individual ~~music~~ ^{workstations} ~~subsystems~~ each provide for output of individual performance data representative of the ~~musical~~ performance by the user corresponding to the display presentation.

25 44. The system as in claim 42, further comprising:
synchronization means for generating a synchronization signal for start of performance;
wherein the selected ~~musical~~ composition is performed over a time period and is communicated in discrete time segments, wherein each of the time segments is synchronized responsive to the synchronization signal and the individual performance data output.

45. The system as in claim 44, wherein the combining means provides the synchronization signal.

5 *B* 46. The system as in claim 41, wherein the composite virtual performance data is communicated back to a plurality of the individual ~~music-subsystems~~ ^{Workstations}.

B 47. The system as in claim 41, wherein at least one of the individual ~~music~~ workstations provide at least one of an audio output and a visual presentation, responsive to the composite virtual performance data.

10 *B* 48. The system as in claim 41, wherein each of the individual ~~music~~ workstations is further comprised of a network interface subsystem.

15 49. The system as in claim 42, further comprising:
operational selection means for determining a selected operating mode for controlling progression of the video presentation.

B 20 50. The system as in claim ⁴¹~~42~~, further comprising means responsive to the composite virtual performance data to generate a video presentation.

51. The system as in claim 41, wherein the user performance data is comprised of at least one of audible performance data, visual performance data, electrical signals, digital data and control data.

Sub (37) B 52. A method for ~~music~~ virtual performance, for integrating simultaneous ~~musical~~ performances from a plurality of locations of ~~music~~ display workstations into a cohesive whole, the method comprising:

13 accepting performance data from each of the plurality of ~~music~~ display
workstations;

14 processing the ~~live~~ performance data into discrete time samples;
communicating the discrete time samples;

5 synchronizing the discrete time samples communicated from each of the

15 plurality of ~~music~~ display workstations to provide synchronized communicated time
samples;

combining the synchronized communication time samples into combined
virtual performance data; and

10 communicating the combined virtual performance data to provide at least
one of an audio and a video presentation responsive to the combined virtual performance
data.

53. The method as in claim 52, further comprising:

15 providing the presentation on at least one of the plurality of ~~music~~ display
workstations. *subsystems*

54. The method as in claim 52, wherein the synchronizing is further comprised
of:

20 providing a common time reference signal; and
utilizing the common time reference signal to synchronize the discrete time
samples from each of the plurality of ~~music~~ display *subsystems* workstations.

25 55. A method of providing a display presentation of a selected musical
composition on an individual music workstation (IMW), comprising:

communicating musical composition data corresponding to the selected
musical composition;

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further comprising:
display subsystem
type to the HFW;

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60. The method as in claim 54, further comprised of:
providing a plurality of separate ones of the ~~individual music~~ ^{display subsystems}
~~workstations~~, each of which provides for selective local displaying.

Sub (b)
61. A music display system comprising:
at least one music workstation comprising means for displaying a music
composition responsive to music data;
at least one editing subsystem for changing at least one of the pitch, key,
tempo, instrument type, notation, and composition of the music data to create modified
music data;
means for distributing the modified music data to the at least one of the
music workstations;
wherein the music workstation provides the display presentation
responsive to the distributed modified music data.

62. The system as in claim 61, wherein the changing of features is restricted at
a defined level of permission.

63. The system as in claim 61, wherein there are a plurality of the music
workstations, and wherein the modified music data is distributed to the plurality of the
music workstations which each provide a local video presentation responsive to the
modified music data.

64. The system as in claim 63, wherein the local video presentations provided
on the plurality of music workstations are synchronized together.

65. The system as in claim 61, wherein the changing is responsive to a user input, wherein the user input is at least one of audio, data, a switch, a touch input device, a motion sensor, and speech recognition.

5 66. A method of electronically displaying a music selection on at least one display subsystem, the method comprising:
storing music data representative of a display presentation for the music
selection;
10 communicating the music data to the at least one display subsystem;
processing the communicated music data for display;
displaying a video presentation of the music selection on the at least one display subsystem, responsive to the processing of the communicated music data.

15 67. The method as in claim 66, wherein there are a plurality of the display subsystems, the method further comprising:
communicating the ~~music~~ data to a plurality of the display subsystems;
and
displaying a video presentation on all of the plurality of the display
20 subsystems of the ~~music~~ selection responsive to the ~~music~~ data.

25 68. The method as in claim 66, further comprising:
modifying the stored ~~music~~ data;
communicating the modified ~~music~~ data to the at least one of the display subsystems; and
displaying a representation of the modified stored ~~music~~ data on the at least one of the display subsystems.

69. The method as in claim 67, the method further comprising:

associating a type with each of the plurality of the display subsystems,

B wherein there are multiple different versions of the modified ~~music~~ data;

selectively providing a video display for each of the plurality of display

5 subsystems, responsive to the associated type for the respective one of the display subsystems.

Add B7 *Add D3*

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